



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/856,872 05/29/01 SAITO

Y L9289.01143

WM01/1002
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1615 L STREET NW
WASHINGTON DC 20036

EXAMINER

IGBAL, K	
ART UNIT	PAPER NUMBER

2684
DATE MAILED: 10/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/856,872

Applicant(s)

SAITO ET AL.

Examiner

Khawar Iqbal

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 04.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marchetto et al (# 5513215).
3. Regarding claim 1 Marchetto et al discloses a communication terminal apparatus comprising reception means for receiving a plurality of reception signal including channel estimation information (col.3, lines 20-50) equalization processing means for performing equalization processing of the reception signal in conformity with adaptive algorithm by means of the channel estimation information (col. 3, lines 54-67, col. 4, lines 1-20, abstract, fig 1-7).). However, Marchetto et al does not specifically teach terminal apparatus but Marchetto et al said paging terminal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide paging terminal since the examiner takes official notice of the equivalence of paging terminal and terminal apparatus for their use in the communication system art and the selection of any of these known equivalents to channel estimation would be within the level of ordinary skill in the art.
4. Regarding claim 2 Marchetto et al discloses channel estimation means for performing channel estimation on a basis of a reception signal by means of the

adaptive algorithm (see claim 1, col. 8, lines 1-45) transmission means for transmitting a signal including channel estimation information obtained by said channel estimation means (col. 8, lines 50-65, fig 1-15).

5. Regarding claims 3 and 4 Marchetto et al discloses a radio communication method, comprising the steps of obtaining channel estimation information by performing channel estimation on a basis of a reception signal (abstract, col. 19, lines 36-65, fig. 17) transmitting a signal including the channel estimation information to a communication terminal apparatus, on a base station apparatus side; and performing equalization processing of the signal transmitted from said base station apparatus in conformity with adaptive algorithm by means of the channel estimation information included in the signal transmitted from said base station apparatus, on a communication terminal apparatus side (col. 26, lines 5-67, fig. 1-19).). For claim 4 also see above. However, Marchetto et al does not specifically teach terminal apparatus, but Marchetto said paging terminal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide paging terminal since the examiner takes official notice of the equivalence of paging terminal and terminal apparatus for their use in the communication system art and the selection of any of these known equivalents to channel estimation would be within the level of ordinary skill in the art. Also see in claim 1.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kalliojarvi (# 6121927), Ericsson (# 5884178), Huszar (# 5862192), Nobakht (# 5692011), and Thomas (# 6141393) teach method and device for channel estimation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAWAR IQBAL whose telephone number is 703-306-3015.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL HUNTER, can be reached at 703-308-6732.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

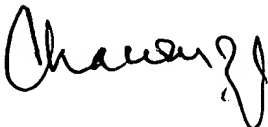
or faxed to:

(703) 872-9314 (for Technology Center 2684 only)

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Khawar Iqbal



DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600